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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/497,618	02/03/2000	Rainald Sander	POo,0184	7717

7590

11-06-2002

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EXAMINER

FARAHANI, DANA

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/497,618

Applicant(s)

SANDER, RAINAL

Examiner

Dana Farahani

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 03 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 4, 6-8, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamaguchi et al., hereinafter Yamaguchi, previously cited.

Regarding claim 1, in figures 3 and 4, Yamaguchi discloses a semiconductor device, 4A, and a MOS transistor 13 in parallel with the temperature sensing circuit 20, same circuit neutralizing the accumulated charge, in an N type body substrate 1.

Regarding claim 2, Yamaguchi discloses the diodes for neutralizing the accumulated charge and sensing the temperature, and the MOS transistor component in the semiconductor body. Note figure 3, number 13 and 20.

Regarding claim 4, Yamaguchi discloses the pair of adjacent diodes 20, for sensing the temperature and for the accumulated charge, 21 and 22 of figure 4A.

Regarding claim 6, Yamaguchi discloses a temperature signal produced by circuit 20, figure 4B, to be provided to the FET control signal, which consequently turns off the FET 13. The charge carrier neutralizing diode 22 is adjacent to the temperature signal.

Regarding claim 8, Yamaguchi discloses thyristor 20 as a temperature sensor.

Regarding claim 9, Yamaguchi discloses an N+ type silicon body substrate, paragraph 1 line 7.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 and 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi as applied to claims 1, 2, 4-6, 8 and 9, above, and further in view of Roth, previously cited.

It is well known in the art that an exclusive-or logic gate outputs 1, or H, when one of its inputs is 0, or L, and the other input is 1, or H. (see, for example, Roth, page 51). Therefore it would have been obvious to one of ordinary skills in the art at the time the invention was made to use an exclusive-or logic gate in Yamaguchi to get an output signal corresponding to the temperature and charge carrier input signals.

Response to Arguments

5. Applicant's arguments filed 9/3/02 have been fully considered but they are not persuasive.

Regarding applicant's request of a reference to show that a two-diode configuration is a switch, see Prior Art below.

Applicant's argument that "...Examiner would be equating an identical element of Yamaguchi with both the present invention's switch and temperature sensor" is not found persuasive, since element 20 in Yamaguchi is a temperature sensor, and diodes 21 and 22 act as a switch element. Therefore, the temperature sensor and the switch are not the same element.

Applicant further argues that since the switch is part of the temperature sensor how it can be protected. Note that element 20 lets out the extra current that may occur in it self (the reference actually states that circuit 20 as a whole prevents damage to its individual diodes in an event of extraneous current, hence temperature. See column 5, lines 38-43.

Regarding applicant's request for some kind of reference to show the inherency of a FET being a charge carrier detector, the reference is provided below in the Prior Art of Record section.

Finally, applicant argues that there are two signals in the claimed invention, that is first and second signals from the temperature sensor and charge carrier detector, respectively. Note, that element 20 in Yamaguchi lets out the extra current, or signal. Furthermore, as indicated in paragraph 2 of the Prior Art of Record section (as disclosed in Pages et al.), a FET outputs a current, or signal, in response to the presence of charge carriers in a semiconductor body.

Prior Art of Record

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

See, for example, U.S. Patent 5,107,216, issued to Yabusaki et al., wherein is stated the two diode configuration in figure 9 act as a switch (see column 6, lines 20-37). Also, see U.S. Patent 6,373,100, issued to Pages et al., wherein is stated in column 5, lines 5-15, that a FET transistor acts as a carrier charge detector (that is it outputs a signal in response to appearance of free charge carriers in a semiconductor body).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Art Unit: 2814

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Farahani whose telephone number is (703)305-1914. The examiner can normally be reached on M-F 9:00AM - 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703)308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9318 for regular communications and (703)872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Dana Farahani
October 30, 2002


LONG PHAM
PRIMARY EXAMINER